

## General

### Title

Caesarean section: crude rate of all Caesarean sections per 100 deliveries.

### Source(s)

Canadian Institute for Health Information (CIHI). Indicator metadata: Caesarean section rate. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

## Measure Domain

### Primary Measure Domain

Related Health Care Delivery Measures: Use of Services

### Secondary Measure Domain

Does not apply to this measure

## Brief Abstract

### Description

This measure is used to assess the crude rate of all Caesarean sections (C-sections) per 100 deliveries.

*Calculation Description:* (Number of C-sections ÷ Number of deliveries) × 100

### Rationale

Caesarean section (C-section) rates provide information on the frequency of surgical birth delivery relative to all modes of birth delivery. Since C-section delivery increases maternal morbidity/mortality and is associated with higher costs, C-section rates are often used to monitor clinical practices, with an implicit assumption that lower rates indicate more appropriate, as well as more efficient care.

### Evidence for Rationale

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Caesarean section [clinical practice guideline]. 2011 rev ed. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG) Press; 2012.

Canadian Institute for Health Information (CIHI). Giving birth in Canada: a regional profile. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2004.

Canadian Institute for Health Information (CIHI). Giving birth in Canada: regional trends from 2001-2002 to 2005-2006. Ottawa (ON): Canadian Institute for Health Information (CIHI);

Canadian Institute for Health Information (CIHI). Indicator metadata: Caesarean section rate. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

Joseph KS, Kramer MS, Marcoux S, Ohlsson A, Wen SW, Allen A, Platt R. Determinants of preterm birth rates in Canada from 1981 through 1983 and from 1992 through 1994. N Engl J Med. 1998 Nov 12;339(20):1434-9. [PubMed](#)

Liu S, Heaman M, Joseph KS, Liston RM, Huang L, Sauve R, Kramer MS, Maternal Health Study Group of the Canadian Perinatal Surveillance System. Risk of maternal postpartum readmission associated with mode of delivery. Obstet Gynecol Int. 2005 Apr;105(4):836-42. [PubMed](#)

Liu S, Rusen ID, Joseph KS, Liston R, Kramer MS, Wen SW, Kinch R, Maternal Health Study Group of the Canadian Perinatal Surveillance System. Recent trends in caesarean delivery rates and indications for caesarean delivery in Canada. J Obstet Gynaecol Can. 2004 Aug;26(8):735-42. [PubMed](#)

Shearer EL. Cesarean section: medical benefits and costs. Soc Sci Med. 1993 Nov;37(10):1223-31. [PubMed](#)

## Primary Health Components

Caesarean section (C-section)

## Denominator Description

Hospitalizations where a delivery was recorded (see the related "Denominator Inclusions/Exclusions" field)

## Numerator Description

Cases within the denominator where a Caesarean section (C-section) delivery was recorded (see the related "Numerator Inclusions/Exclusions" field)

## Evidence Supporting the Measure

### Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

A formal consensus procedure, involving experts in relevant clinical, methodological, public health and organizational sciences

One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

## Additional Information Supporting Need for the Measure

Unspecified

## Extent of Measure Testing

Unspecified

## State of Use of the Measure

### State of Use

Current routine use

### Current Use

not defined yet

## Application of the Measure in its Current Use

### Measurement Setting

Hospital Inpatient

### Professionals Involved in Delivery of Health Services

not defined yet

### Least Aggregated Level of Services Delivery Addressed

Regional, County or City

### Statement of Acceptable Minimum Sample Size

Unspecified

### Target Population Age

Unspecified

### Target Population Gender

Female (only)

# National Strategy for Quality Improvement in Health Care

## National Quality Strategy Priority

## Institute of Medicine (IOM) National Health Care Quality Report Categories

### IOM Care Need

Not within an IOM Care Need

### IOM Domain

Not within an IOM Domain

## Data Collection for the Measure

### Case Finding Period

April 1 to March 31

### Denominator Sampling Frame

Patients associated with provider

### Denominator (Index) Event or Characteristic

Clinical Condition

Institutionalization

Patient/Individual (Consumer) Characteristic

### Denominator Time Window

not defined yet

### Denominator Inclusions/Exclusions

Inclusions

Hospitalizations where a delivery was recorded

Admission to an acute care institution (Facility Type Code = 1)

Sex recorded as female

Delivery coded in any diagnosis field

## Exclusions

Newborn, stillbirth or cadaveric donor records (Admission Category = N, R or S)  
Delivery in which an abortive procedure was recorded (code may be recorded in any position;  
procedures coded as out of hospital and abandoned after onset are excluded)

Note: Refer to the original measure documentation for the administrative codes.

## Exclusions/Exceptions

not defined yet

## Numerator Inclusions/Exclusions

### Inclusions

Cases within the denominator where a Caesarean section (C-section) delivery was recorded

Note: Refer to the original measure documentation for the procedure codes used to identify C-section (code may be recorded in any position; procedures coded as out of hospital and abandoned after onset are excluded).

### Exclusions

Unspecified

## Numerator Search Strategy

Institutionalization

## Data Source

Administrative clinical data

## Type of Health State

Does not apply to this measure

## Instruments Used and/or Associated with the Measure

Unspecified

## Computation of the Measure

## Measure Specifies Disaggregation

Does not apply to this measure

## Scoring

Rate/Proportion

## Interpretation of Score

Does not apply to this measure (i.e., there is no pre-defined preference for the measure score)

## Allowance for Patient or Population Factors

not defined yet

## Description of Allowance for Patient or Population Factors

- Indicators are reported at the national, provincial/territorial, and regional levels.
- Unless otherwise specified, for indicators based on place of residence, data is reported based on the region of the patient's residence, not region of hospitalization. Consequently, these figures reflect the hospitalization experience of residents of the region wherever they are treated, including out of province, as opposed to the comprehensive activity of the region's hospitals (that will also treat people from outside of the region). Hospitalizations occurring in the U.S. or abroad are not included.
- For indicators based on place of service (where the patient was treated), data is reported based on the administrative region of the facility (e.g., region of hospitalization).

## Standard of Comparison

not defined yet

## Identifying Information

### Original Title

Caesarean section rate.

### Measure Collection Name

Health Indicators ePublication 2015

### Submitter

Canadian Institute for Health Information - Nonprofit Organization

### Developer

Canadian Institute for Health Information - Nonprofit Organization

### Funding Source(s)

Canadian Government

### Composition of the Group that Developed the Measure

*Employees:* Canadian Institute for Health Information (CIHI) Health Indicators

## Financial Disclosures/Other Potential Conflicts of Interest

None

## Adaptation

This measure was not adapted from another source.

## Date of Most Current Version in NQMC

2015 May

## Measure Maintenance

Annually

## Date of Next Anticipated Revision

Unspecified

## Measure Status

This is the current release of the measure.

This measure updates a previous version: Canadian Institute for Health Information (CIHI). Health indicators 2013: definitions, data sources and rationale. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2013 May. 89 p.

The measure developer reaffirmed the currency of this measure in April 2016.

## Measure Availability

Source available from the [Canadian Institute for Health Information \(CIHI\) Web site](#)

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For more information, contact CIHI at 4110 Yonge Street, Suite 300, Toronto, Ontario, Canada, M2P 2B7; Phone: 416-481-2002; Fax: 416-481-2950; E-mail: [hsp@cihi.ca](mailto:hsp@cihi.ca); Web site: [www.cihi.ca](http://www.cihi.ca)

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## Companion Documents

The following are available:

Canadian Institute for Health Information (CIHI). Indicator library: general methodology notes - clinical indicators, March 2015. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 Mar. 19 p. This document is available from the [Canadian Institute for Health Information \(CIHI\) Web site](#) .

Canadian Institute for Health Information (CIHI). Canadian coding standards for version 2015 ICD-10-CA and CCI. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015. 511 p. This document is available from the [CIHI Web site](#) .

Canadian Institute for Health Information (CIHI). Health indicators interactive tool. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); [accessed 2015 Jan 20]. This tool is

available from the [CIHI Web site](#) .

## NQMC Status

This NQMC summary was completed by ECRI Institute on October 10, 2008. The information was verified by the measure developer on December 18, 2008.

This NQMC summary was updated by ECRI Institute on April 19, 2010. The information was verified by the measure developer on June 24, 2010.

This NQMC summary was retrofitted into the new template on May 18, 2011.

This NQMC summary was updated by ECRI Institute on March 18, 2013. The information was verified by the measure developer on May 17, 2013.

The CIHI informed NQMC that this measure was updated on October 31, 2013 and provided an updated version of the NQMC summary. This NQMC summary was reviewed and updated accordingly by ECRI Institute on February 21, 2014.

This NQMC summary was updated again by ECRI Institute on September 4, 2015. The information was verified by the measure developer on November 6, 2015.

The information was reaffirmed by the measure developer on April 29, 2016.

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Questions and inquiries may be directed to: CIHI, Health Indicators, 4110 Yonge Street, Suite 300, Toronto, Ontario, Canada, M2P 2B7; Phone: 416-481-2002; Fax: 416-481-2950.

## Production

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Canadian Institute for Health Information (CIHI). Indicator metadata: Caesarean section rate. [internet]. Ottawa (ON): Canadian Institute for Health Information (CIHI); 2015 May [accessed 2015 Jul 13].

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